

ANNOUNCEMENT

Best paper announcement for 2020

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It is a pleasure to announce that the winner of the 2020 Best Paper Award was “Behavioural and neurogenomic responses of host workers to social parasite invasion in a social insect” by Alessandro Cini, Rebecca Branconi, Rita Cervo, and Seirian Sumner.

Dr. Cini and colleagues investigated the proximate basis of host defense strategies against social parasites, in two paper wasps, *Polistes dominula*, the host and *P. sulcifer*, the parasite. When a parasite replaces a host queen, host workers mostly end up raising her offspring. However, about 6 weeks after invasion, “rebellious” workers may begin laying their own eggs. Cini et al. used behavioral observations and laboratory studies of brain gene expression to investigate whether worker egg-laying might be presaged by a subtler response to invasion. By comparing worker social networks and brain gene expression profile in parasitized and un-parasitized colonies, they uncovered evidence suggesting that workers recognize and respond quickly to parasite invasion. Their work highlights polistine wasps as fascinating models for studying the mechanistic basis of co-evolutionary arms races between hosts and parasites.

This paper (Cini et al. 2020) stems from the Ph.D. dissertation research of Alessandro Cini, carried out at the University of Florence. He is currently a Research Fellow at University College London, where he continues researches aimed at understanding the diversity and evolution of communication and social interactions in insect societies.

Solenn Patalano is a Research Associate at the Institute for Fundamental Biomedical Research (IFBR) ‘Alexander Fleming’, Athens, Greece. At the time of analyses, she worked at the London Zoological Society, where she led the molecular analyses for this paper.

Rebecca Branconi was an MSc student at the University of Florence who spent hours watching wasps and annotating their behavior. After finishing her Ph.D., she now works at Cephalopod Research in Naples, Italy.

Rita Cervo is an Associate Professor at University of Florence and an expert on wasp social parasitism.

Seirian Sumner is Professor at University College London, where she does research in sociogenomics.

The Best Paper Award is selected annually by the editors and editorial board of *Insectes Sociaux* after extensive review and consultation. The board consists of prominent scientists studying arthropod social biology at leading universities from around the world. *Insectes Sociaux* publishes original scientific studies and review articles about social arthropods.

Reference

- Cini A, Branconi R, Patalano S, Cervo R, Sumner S (2020) Behavioural and neurogenomic responses of host workers to social parasite invasion in a social insect. *Insect Soc* 67:295–308. <https://doi.org/10.1007/s00040-020-00765-6>